

MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

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Topics in Minority Health

Alcohol-Related Hospitalizations — Indian Health Service and Tribal Hospitals, United States, May 1992

Alcohol use is directly responsible for hospitalizations resulting from chronic conditions, such as alcoholic liver disease and alcoholic psychoses; in addition, alcohol use can be a contributing factor in other conditions, such as infectious diseases and injuries, that require hospital admission. Based on discharge data from Indian Health Service (IHS) facilities and CDC's National Hospital Discharge Survey (1), the proportion of alcohol-related hospitalizations (ARHs) among American Indians/Alaskan Natives has been reported as 2.5 times that for the total U.S. population. However, these estimates rely on a limited set of alcohol-defined diagnoses that are primarily associated with chronic alcoholism. To characterize more accurately the relation of alcohol use to inpatient admissions to IHS and tribally operated hospitals in the United States, IHS conducted a 1-day survey of ARHs in these facilities on Monday, May 18, 1992. This report summarizes preliminary results from the survey.

A survey instrument was mailed to the clinical director (CD) of each of the 50 IHS and tribally operated hospitals, and each CD was contacted by phone during the week before the survey date to confirm receipt of the letter and to designate a person to respond to a telephone survey. The survey requested aggregate information about the number of adult and pediatric (aged ≤ 15 years) patients (by sex) who were hospital inpatients on that date and the number of patients (by age group and sex) whose hospitalization was related to alcohol use. A list of broad diagnostic categories of potentially alcohol-defined (e.g., alcoholic psychoses, alcohol dependence syndrome, nondependent alcohol abuse, and alcoholic liver disease) or alcohol-related (e.g., gastrointestinal bleeding or unintentional injury) diagnoses was included on the survey instrument (Table 1); ARHs also included persons whose reason for admission was, in the judgment of the attending physician, related to past or current alcohol use, even if the patient was not the person using alcohol (e.g., an injury sustained in a motor-vehicle crash caused by a drunk driver even if the injured patient was not drinking). ARHs were ascertained based on interviews with the attending physician and

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review of medical records by the hospital's CD, quality assurance coordinator, or another physician designated by the CD.

Of the 50 hospitals, 49 completed the survey. Two hospitals (accounting for 13 adult and four pediatric patients) were deleted from the analyses because the surveys were completed incorrectly. Of 899 hospital inpatients (753 adults and 146 children) on the day of the survey, 161 (17.9%) had alcohol-related diagnoses. Among adult patients, 156 (20.7%) hospitalizations were alcohol-related. When women hospitalized for obstetric conditions were excluded, 155 (25.2%) of 616 hospitalizations were alcohol-related. The proportion of ARHs for men (34.5%) was nearly three times that for women (11.7%) (prevalence ratio [PR]=3.0; 95% confidence interval [CI]=2.2–4.0) and almost twice that for women when obstetric patients were excluded (16.4%) (PR=2.1; 95% CI=1.6–2.8).

The proportion of ARHs was greatest in smaller hospitals: in facilities with 25 beds or fewer, 34.9% of hospitalizations were alcohol-related, compared with 11.2% of hospitalizations in facilities with more than 50 beds (PR=3.0; 95% CI=2.2–4.1). Less than half (46.8%) of the ARHs were associated with alcohol-defined diagnoses (Table 1). Infectious diseases and injury (excluding suicide attempt) each accounted for approximately 15% of cases. Five pediatric hospitalizations were alcohol-related, including unintentional injury (two), child neglect (one), intoxication (one), and fetal alcohol syndrome (one).

The mean time required at each hospital for data collection was 40 minutes (range: 10–210 minutes). All responding hospitals received the study results within 3 weeks of the survey.

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Editorial Note: When surveillance of alcohol-related morbidity among hospital inpatients is restricted to a limited set of alcohol-defined diagnoses typically associated with chronic alcoholism, the contribution of alcohol use to overall morbidity may be substantially underestimated. A previous report indicated that a more comprehensive

TABLE 1. Distribution of diagnoses for alcohol-related hospitalizations among adults,* by sex, — Indian Health Service and tribally operated hospitals, May 18, 1992

Diagnosis	Male		Female		Total	
	No.	(%)	No.	(%)	No.	(%)
Alcoholism	20	(19.4)	14	(26.4)	34	(21.8)
Alcoholic psychoses	3	(2.9)	1	(1.9)	4	(2.6)
Alcohol withdrawal	9	(8.7)	3	(5.7)	12	(7.7)
Acute alcohol intoxication	3	(2.9)	1	(1.9)	4	(2.6)
Alcoholic cirrhosis	10	(9.7)	6	(11.3)	16	(10.3)
Alcoholic hepatitis and liver failure	2	(1.9)	1	(1.9)	3	(1.9)
Pancreatitis	1	(1.0)	0		1	(0.6)
Gastrointestinal bleeding	9	(8.7)	5	(9.4)	14	(9.0)
Infectious diseases	16	(15.5)	7	(13.2)	23	(14.6)
Unintentional injury	13	(12.6)	3	(5.7)	16	(10.3)
Injury inflicted by others	6	(5.8)	3	(5.7)	9	(5.8)
Suicide attempt	4	(3.9)	1	(1.9)	5	(3.2)
Other alcohol-related	7	(6.8)	8	(15.1)	15	(9.6)
Total	103	(100.0)	53	(100.0)	156	(100.0)

*Persons aged >15 years.

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assessment of alcohol-related mortality can be attained by assigning alcohol-attributable fractions (AAFs) to a spectrum of disease and injury diagnoses that are causally linked to alcohol use and applying these fractions to diagnoses on death certificates (2); however, estimated AAFs are imprecise and do not permit adequate morbidity analyses. The approach used by the IHS in this report not only relies on a defined set of alcohol-related diagnoses and statistical algorithms but also incorporates patient-specific clinical impressions of treating physicians to assess the role of alcohol use for each hospital admission.

The methods used in this survey are not comparable to those used in other studies (3,4), so the overall proportion of ARHs can not be directly compared to published data. Because the ascertainment of ARHs in the IHS study was based on the clinical impressions of health-care providers, it is possible that a higher proportion of alcohol-related problems would have been identified if all patients were screened for alcohol abuse.

After its reliability (reproducibility) and validity have been established, the 1-day "snapshot" survey method described in this report may be used as a rapid and efficient surveillance method to provide information on ARHs. However, this method has several potential limitations. First, seasonal and day-of-week variation in ARHs would be undetected; however, the proportion of ARHs in this survey was almost identical to that described in a similar IHS survey conducted in September 1987 (5). This survey was conducted on a Monday, while the survey in 1987 was conducted on a Thursday, by which time some patients with ARHs associated with the previous weekend should have been discharged. Second, in the absence of systematic screening of all patients for alcohol use, the proportion of ARHs is likely to have been underestimated—even though some admissions may have been considered to have been alcohol-related only on the basis of clinical impressions, in the absence of a true causal relation between alcohol use and the disease or injury.

Despite potential limitations, this survey underscores the impact of alcohol use on hospitalization among American Indians/Alaskan Natives. Because rates of alcohol use are high among American Indian/Alaskan Native youth, often beginning at early ages, primary prevention of alcohol abuse should be a high priority (6–8). In addition, secondary prevention efforts among established alcoholics by rehabilitation to establish sobriety are necessary. Although the specific infectious diseases resulting in hospitalization in this population were not determined, heavy alcohol use is a risk factor for pneumococcal infections and tuberculosis (9,10). Prevention of alcohol-related infectious diseases by appropriate use of pneumococcal vaccine and chemoprophylaxis of alcohol abusers with positive tuberculosis skin tests should be a high priority among those providing health care for American Indian/Alaskan Native patients. The IHS Alcoholism and Substance Abuse Program Branch will use these survey results as part of a surveillance system to direct interventions to reduce ARHs in locations with a high proportion of ARHs and to evaluate those interventions.

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*Health Objectives for the Nation***Behaviors Related to Unintentional and Intentional Injuries
Among High School Students — United States, 1991**

During 1988, injuries were the leading cause of death among persons aged 15-19 years in the United States (CDC, unpublished data, 1988). Of all deaths in this age group, 42% were motor-vehicle related, 13% were due to homicide, 13% to suicide, and 11% to other types of injuries and adverse effects. This report presents 1991 self-reported data on the prevalence of selected behaviors (i.e., attempted suicide, physical fighting, weapon-carrying, safety-belt use, motorcycle-helmet use, and bicycle-helmet use) associated with these causes of death among 9th-12th-grade students in the United States.

Data were collected from two school-based components of CDC's Youth Risk Behavior Surveillance System (1): 1) state and local Youth Risk Behavior Surveys (YRBSs) conducted by departments of education in 23 states* and 10 cities during the spring of 1991 and 2) the national YRBS conducted during the same period. The 33 state and local sites drew probability samples from defined sampling frames of schools and students in grades 9-12. Seventeen sites had adequate school- and student-response rates, which allowed computation of weighted results of known precision; 16 sites had overall response rates below 60% or unavailable documentation, which precluded making estimates of known precision. The national survey used a three-stage sample design to obtain a sample of 12,272 students representative of students in grades 9-12 in the 50 states and the District of Columbia.

For the state and local surveys, school-response rates ranged from 48% to 100%; student-response rates ranged from 44% to 96% (2); and state and local sample sizes

*The District of Columbia, Puerto Rico, and the Virgin Islands are categorized as states for funding purposes.

Unintentional and Intentional Injuries – Continued

ranged from 369 to 5834 students. Students in most samples were distributed evenly across grades and between sexes, and the racial/ethnic characteristics of the samples varied. The school-response rate for the national survey was 75%, and the student-response rate was 90%.

Suicide Attempts

Of students participating in the state and local surveys, 14%–35% (median: 27%; national prevalence: 29%) had thought seriously about attempting suicide, 9%–22% (median: 17%; national prevalence: 19%) had made a specific plan to attempt suicide, 5%–12% (median: 8%; national prevalence: 7%) actually attempted suicide, and 1%–5% (median: 2%; national prevalence: 2%) made a suicide attempt that resulted in an injury or poisoning that had to be treated by a doctor or nurse (Table 1). In all sites, female students were more likely than male students to report having thought seriously about attempting suicide, made a suicide plan, attempted suicide one or more times, and made a suicide attempt that required medical attention.

Physical Fighting and Weapon-Carrying

Of students participating in the state and local surveys, 34%–56% (median: 42%; national prevalence: 42%) had been in at least one physical fight during the 12 months preceding the survey (Table 2). In every site, male students were more likely than female students to report having been in a physical fight. The 12-month incidence rate[†] for physical fighting ranged from 102 incidents per 100 students to 202 incidents per 100 students (median: 140; national incidence: 137 per 100 students).

Of participating students, 16%–39% (median: 26%; national prevalence: 26%) carried a weapon such as a gun, knife, or club at least 1 day during the 30 days preceding the survey; among students who carried a weapon, 5%–41% (median: 11%; national prevalence: 11%) most often carried a handgun (Table 2). In every site, male students were more likely than female students to have carried a weapon. The 30-day incidence rate[†] for weapon-carrying ranged from 62 to 164 incidents per 100 students (median: 110; national incidence: 107 per 100 students).

Safety-Belt and Helmet Use

Of students participating in the state and local surveys, 7%–54% (median: 22%; national prevalence: 28%) “always” used safety belts when riding in a car or truck driven by someone else (Table 3, page 771). Among students who rode motorcycles, 10%–59% (median: 36%; national prevalence: 39%) “always” wore motorcycle helmets. Among students who rode bicycles, 0.2%–3% (median: 1%; national prevalence: 1%) “always” wore bicycle helmets. Rates of safety-belt, motorcycle-helmet, and bicycle-helmet use were similar for female and male students in most sites.

[†] The incidence rate was calculated by adding the number of times each student reported being in a physical fight during the 12 months preceding the survey or carrying a weapon during the 30 days preceding the survey and dividing this sum by the total number of students. The number of physical fighting or weapon-carrying episodes per student was then multiplied by 100 to determine the incidence rate per 100 students. Students who replied that they had fought two or three times were assigned a physical fighting frequency of 2.5; four or five times, 4.5; six or seven times, 6.5; eight or nine times, 8.5; 10 or 11 times, 10.5; and 12 or more times, 12. Students who replied that they carried a weapon 2 or 3 days were assigned a weapon-carrying frequency of 2.5; 4 or 5 days, 4.5; and 6 or more days, 6.

Unintentional and Intentional Injuries — Continued

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Editorial Note: The findings in this report can be used to plan and evaluate broad national, state, and local interventions for injury prevention and to monitor progress toward achieving national health objectives for the year 2000 (objectives 6.2, 7.8, 7.9, 7.10, 9.12, and 9.13) (3). However, because the quality of the samples varied among the state and local surveys, data across sites may not be comparable.

Objectives 6.2 and 7.8 are to reduce by 15% the incidence of injurious suicide attempts that required medical attention among adolescents aged 14–17 years. Based on results from the 1991 national YRBS, the annual prevalence of injurious suicide attempts will need to be reduced from 2.0% to 1.4% by the year 2000 to meet the objectives. Only two sites have met these objectives. Objective 7.9 is to reduce by 20% the incidence of physical fighting among adolescents aged 14–17 years; based on the 1991 national YRBS, the 12-month incidence must decline from 137 to 110 or fewer episodes per 100 students by the year 2000. Only one site has met this objective.

Objective 7.10 is to reduce by 20% the incidence of weapon-carrying by adolescents aged 14–17 years. To meet this objective by the year 2000, the 30-day incidence rate must be reduced from 107 to 86 or fewer episodes per 100 students. Six sites have met this objective. Objective 9.12 is to increase to at least 85% the proportion of motor-vehicle occupants who use occupant-protection systems, and objective 9.13 is to increase use of helmets to at least 80% among motorcyclists and at least 50% among bicyclists. In all 33 sites, the prevalence of safety-belt, motorcycle-helmet, and bicycle-helmet use is substantially below these objectives.

Comprehensive health education programs in elementary, middle, and secondary schools may help meet the national health objectives. These programs should include information about the warning signs of suicide and suicide-prevention services, teach nonviolent conflict-resolution skills, discourage physical fighting and weapon carrying, and promote the use of safety belts and helmets to prevent motor-vehicle injuries (3). Other strategies that have been employed in the school setting to reduce weapon-carrying are random locker searches, walk-throughs with metal detectors, and policies requiring clear plastic or mesh book bags so that weapons cannot be concealed easily (4).

TABLE 1. Percentage of high school students who reported having thought seriously about suicide and who reported suicidal behavior,* by sex — United States and selected U.S. sites, Youth Risk Behavior Surveys, 1991

Site	Thought seriously about suicide			Made suicide plans			Attempted suicide			Suicide attempt required medical attention [†]		
	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total
WEIGHTED DATA												
National survey	37	21	29	25	13	19	11	4	7	2	1	2
State surveys												
Alabama	NA [‡]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Georgia	33	17	25	21	11	16	8	4	6	2	1	2
Idaho	34	21	27	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nebraska	36	21	28	21	13	17	9	4	7	2	2	2
New Mexico	40	22	31	30	15	22	16	6	11	4	2	3
New York [†]	36	20	28	23	11	17	10	4	7	3	1	2
Puerto Rico**	24	15	20	16	8	12	10	4	7	2	1	1
South Carolina	31	20	26	20	13	16	10	5	7	3	2	2
South Dakota	37	23	30	24	13	18	12	4	8	4	1	2
Utah	32	19	26	21	12	17	10	4	7	3	1	2
Local surveys												
Chicago	30	20	25	22	13	18	11	8	10	4	3	4
Dallas	32	17	25	19	9	14	9	4	7	4	2	3
Ft. Lauderdale, Fla.	30	22	27	18	12	15	8	4	6	2	0	1
Jersey City, N.J.	39	30	35	24	13	19	15	6	11	7	4	5
Miami	32	19	26	19	11	15	9	4	7	2	1	2
Philadelphia	32	18	26	21	8	16	11	4	8	3	1	2
San Diego	35	22	28	22	11	17	10	3	6	3	2	2
UNWEIGHTED DATA												
State surveys												
Colorado [‡]	37	20	28	25	13	19	12	5	8	5	2	3
District of Columbia**	27	19	24	19	11	15	10	6	8	2	3	3
Hawaii	41	25	33	28	16	22	15	8	12	4	3	3
Iowa	35	22	29	24	15	20	9	5	7	2	2	2
Montana	39	22	31	26	14	20	12	5	9	4	2	3
New Hampshire	38	23	31	24	16	20	12	6	9	3	2	3
New Jersey [†]	31	20	26	22	14	18	11	6	9	3	2	2
Oregon	36	19	28	NA	NA	NA	NA	NA	NA	5	3	4
Pennsylvania [‡]	35	20	28	23	13	18	9	5	7	2	2	2
Tennessee	34	23	29	23	16	19	11	6	8	2	2	2
Virgin Islands**	18	10	14	12	6	9	5	5	5	NA	NA	NA
Wisconsin	37	24	31	23	15	19	12	6	9	3	2	2
Wyoming	37	22	30	25	15	20	12	6	9	4	2	3
Local surveys												
Boston	27	16	22	17	10	14	9	4	7	2	2	2
New York City	36	21	29	24	12	18	12	4	8	2	2	2
San Francisco	34	20	27	20	10	16	10	5	8	4	1	2

* During the 12 months preceding the survey.

[†] Resulted in an injury, poisoning, or overdose that had to be treated by a doctor or nurse.

[‡] Not available; survey did not include these questions.

[†] Survey did not include students from the largest city.

** Categorized as a state for funding purposes.

TABLE 2. Percentage of high school students who were in a physical fight,* carried a weapon,[†] or carried a handgun most often,[‡] and the incidence of physical fighting[§] and weapon carrying per 100 students, by sex — United States and selected U.S. sites, Youth Risk Behavior Surveys, 1991**

Site	In a physical fight			12-month incidence of physical fighting			Carried a weapon			Carried a handgun most often			30-day incidence of weapon carrying		
	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total
WEIGHTED DATA															
National survey	34	50	42	103	170	137	11	41	26	7	12	11	40	172	107
State surveys															
Alabama	28	47	38	80	150	115	9	57	33	8	10	10	36	266	151
Georgia	31	48	39	89	154	122	8	46	27	7	15	14	36	210	122
Idaho	34	52	44	118	188	157	9	52	32	7	9	7	32	232	140
Nebraska	33	50	42	110	177	144	5	42	24	3	11	11	19	179	99
New Mexico	37	54	46	102	195	152	10	46	29	9	11	11	35	201	124
New York ^{††}	38	50	44	133	179	157	11	39	25	3	6	5	44	164	104
Puerto Rico ^{§§}	26	43	34	74	134	102	7	32	19	13	18	17	23	128	72
South Carolina	32	51	42	91	180	136	12	50	31	8	17	15	48	221	134
South Dakota	34	47	40	107	161	134	6	43	25	10	9	9	21	190	108
Utah	33	51	42	123	185	154	7	42	24	5	11	10	23	175	98
Local surveys															
Chicago	44	60	51	141	167	202	23	44	33	7	31	23	99	177	137
Dallas	41	53	47	133	196	164	16	45	30	28	46	41	63	185	122
Ft. Lauderdale, Fla.	31	45	37	93	154	120	6	29	16	8	18	15	23	109	62
Jersey City, N.J.	46	51	48	128	215	169	26	52	39	4	26	18	103	228	164
Miami	35	48	41	104	150	128	14	35	24	20	25	23	48	134	91
Philadelphia	51	62	56	144	218	177	26	49	36	6	28	19	112	213	158
San Diego	32	44	39	98	152	126	12	34	23	5	13	11	44	124	84

UNWEIGHTED DATA

State surveys

Colorado ^{††}	36	48	42	97	174	137	10	48	29	4	11	10	38	214	129
District of Columbia ^{§§}	40	49	44	112	162	137	28	39	34	8	46	29	122	173	148
Hawaii	35	44	40	121	172	147	7	36	22	8	12	11	26	142	84
Iowa	35	50	42	110	182	147	5	42	23	5	6	7	14	182	96
Montana	34	50	42	124	167	145	11	50	30	8	10	9	41	222	129
New Hampshire	25	42	34	88	146	118	7	41	25	7	8	8	30	172	102
New Jersey ^{††}	34	51	42	98	189	142	10	30	19	7	13	12	35	120	75
Oregon	28	42	35	89	149	121	7	44	26	8	9	9	28	187	110
Pennsylvania [†]	34	46	40	115	162	140	8	45	27	5	7	6	30	182	109
Tennessee	31	45	38	96	150	122	10	51	30	5	11	10	44	233	136
Virgin Islands ^{§§}	NA ^{††}	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Wisconsin	35	51	43	110	179	144	7	37	22	7	13	12	28	147	87
Wyoming	36	52	44	118	188	155	10	50	31	5	8	7	45	234	144

Local surveys

Boston	30	45	36	86	168	122	17	39	27	3	18	13	72	174	117
New York City	38	46	42	122	166	153	21	42	31	7	15	12	84	186	134
San Francisco	29	42	35	91	145	117	12	30	21	10	12	12	47	119	82

*At least one fight during the 12 months preceding the survey.

†At least 1 day during the 30 days preceding the survey.

§Rather than any other weapon such as a rifle, shotgun, knife, razor, or club, among those who carried a weapon.

¶Students who reported fighting two or three times were assigned a fighting frequency of 2.5; four or five times, 4.5; six or seven times, 6.5; eight or nine times, 8.5; 10 or 11 times, 10.5; and 12 or more times, 12.

**Students who replied that they carried a weapon 2 or 3 days were assigned a weapon-carrying frequency of 2.5; 4 or 5 days, 4.5; and 6 or more days, 6.

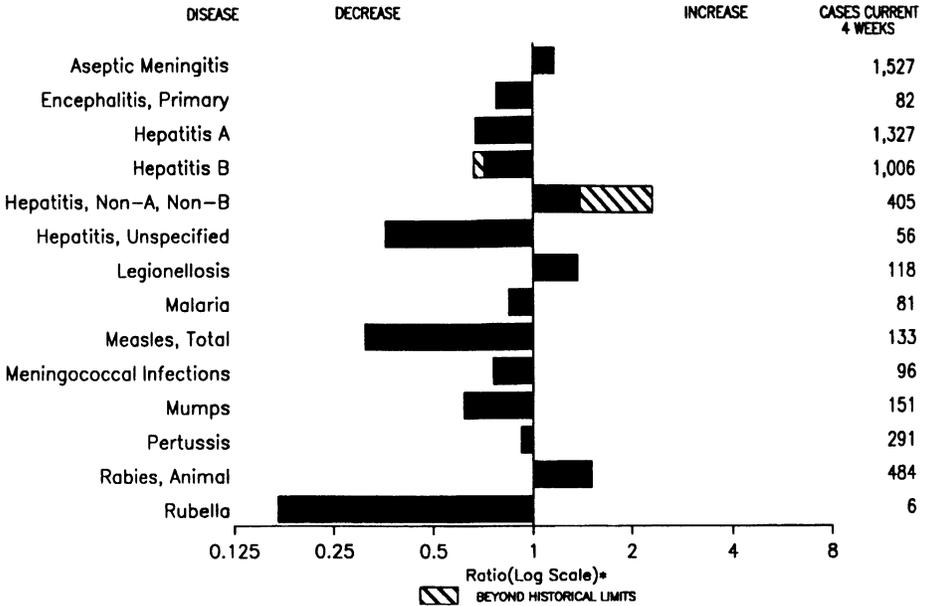
††Survey did not include students from the largest city.

§§Categorized as a state for funding purposes.

¶¶Not available; survey did not include these questions.

(continued on page 771)

FIGURE I. Notifiable disease reports, comparison of 4-week totals ending October 10, 1992, with historical data — United States



*Ratio of current 4-week total to mean of 15 4-week totals (from previous, comparable, and subsequent 4-week periods for the past 5 years). The point where the hatched area begins is based on the mean and two standard deviations of these 4-week totals.

TABLE I. Summary — cases of specified notifiable diseases, United States, cumulative, week ending October 10, 1992 (41st Week)

	Cum. 1992		Cum. 1992
AIDS*	35,339	Measles: imported	118
Anthrax	1	indigenous	1,974
Botulism: Foodborne	13	Plague	9
Infant	40	Poliomyelitis, Paralytic [†]	-
Other	1	Psittacosis	67
Brucellosis	65	Rabies, human	-
Cholera	97	Syphilis, primary & secondary	26,578
Congenital rubella syndrome	8	Syphilis, congenital, age < 1 year [‡]	697
Diphtheria	4	Tetanus	21
Encephalitis, post-infectious	96	Toxic shock syndrome	188
Gonorrhea	382,489	Trichinosis	22
<i>Haemophilus influenzae</i> (invasive disease)	1,027	Tuberculosis	17,482
Hansen Disease	126	Tularemia	134
Leptospirosis	24	Typhoid fever	298
Lyme Disease	5,732	Typhus fever, tickborne (RMSF)	377

*Updated monthly; last update October 3, 1992.

[†]Two cases of suspected poliomyelitis have been reported in 1992; 6 of the 9 suspected cases with onset in 1991 were confirmed, and 5 of the 8 suspected cases with onset in 1990 were confirmed; all were vaccine associated.

[‡]Reports through first quarter 1992.

TABLE II. Cases of selected notifiable diseases, United States, weeks ending October 10, 1992, and October 12, 1991 (41st Week)

Reporting Area	AIDS*	Aseptic Meningitis	Encephalitis		Gonorrhea		Hepatitis (Viral), by type				Legionellosis	Lyme Disease
			Primary	Post-infectious			A	B	NA,NB	Unspecified		
UNITED STATES	35,339	7,965	522	96	382,489	471,234	15,953	12,249	5,658	568	1,030	5,732
NEW ENGLAND	1,118	302	23	-	8,120	11,348	466	456	90	19	47	1,283
Maine	36	31	2	-	74	127	28	19	6	-	2	4
N.H.	34	22	2	-	92	160	30	30	20	1	5	34
Vt.	23	17	4	-	23	42	8	12	11	-	2	5
Mass.	552	132	12	-	2,931	4,927	232	364	47	18	28	191
R.I.	74	100	3	-	551	993	117	18	6	-	10	219
Conn.	399	-	-	-	4,449	5,099	51	13	-	-	-	830
MID. ATLANTIC	9,276	675	20	7	42,342	55,973	1,197	1,505	273	18	272	3,225
Upstate N.Y.	1,180	348	5	-	8,291	10,217	264	389	175	8	104	1,999
N.Y. City	5,421	114	4	1	14,920	21,514	537	289	4	-	6	15
N.J.	1,603	-	-	-	5,709	9,139	183	356	67	-	27	450
Pa.	1,072	213	16	6	13,422	15,103	213	471	27	10	135	761
E.N. CENTRAL	3,105	1,254	133	27	73,568	87,329	2,219	1,873	1,128	34	272	117
Ohio	558	344	43	2	21,993	26,492	339	186	74	4	122	48
Ind.	294	163	10	11	7,154	8,960	664	640	551	13	36	30
Ill.	1,481	311	56	6	24,310	26,310	464	224	75	6	24	17
Mich.	582	410	22	8	17,045	19,420	119	473	361	11	61	22
Wis.	191	26	2	-	3,066	6,147	633	350	67	-	29	-
W.N. CENTRAL	983	431	34	6	17,913	23,292	2,079	519	221	30	64	265
Minn.	187	59	13	-	2,332	2,409	561	58	16	2	5	127
Iowa	74	63	-	3	1,232	1,574	39	29	5	4	16	17
Mo.	502	193	8	-	10,221	14,184	841	343	169	22	23	95
N. Dak.	8	1	3	-	52	67	97	1	3	-	2	1
S. Dak.	7	8	1	1	146	290	196	4	-	-	-	1
Nebr.	46	23	4	2	8	1,474	225	32	15	1	15	9
Kans.	159	84	5	-	3,922	3,294	120	52	13	-	3	15
S. ATLANTIC	7,993	1,250	132	42	116,328	140,053	1,010	2,031	774	92	151	490
Del.	102	46	6	-	1,400	2,270	40	178	163	1	22	180
Md.	990	162	13	-	12,582	15,511	184	318	31	5	27	127
D.C.	538	23	1	-	4,787	7,267	13	64	264	-	9	2
Va.	472	206	31	12	13,082	14,300	95	152	30	32	18	94
W. Va.	42	29	55	-	682	991	7	45	2	24	-	8
N.C.	534	133	22	-	19,365	27,970	83	337	70	-	31	53
S.C.	258	19	-	-	8,651	11,776	21	45	1	1	16	2
Ga.	1,036	164	2	-	33,555	31,681	149	246	96	-	7	3
Fla.	4,021	468	2	30	22,224	28,287	418	646	117	29	21	21
E.S. CENTRAL	1,108	421	20	-	37,829	46,788	246	1,040	1,600	2	52	54
Ky.	174	146	12	-	3,791	4,777	75	78	3	-	24	19
Tenn.	354	98	4	-	11,539	16,410	95	853	1,581	-	22	26
Ala.	391	108	3	-	13,271	14,237	43	105	15	1	6	9
Miss.	189	89	1	-	9,228	11,364	33	4	1	1	-	-
W.S. CENTRAL	3,264	969	46	5	41,892	53,953	1,568	1,492	122	129	20	97
Ark.	200	11	7	-	5,753	6,359	101	67	7	4	-	12
La.	568	54	5	1	11,674	12,302	175	149	61	3	4	5
Okla.	191	-	3	2	4,323	5,557	151	160	33	3	9	23
Tex.	2,305	904	31	2	20,142	29,735	1,141	1,116	21	119	7	57
MOUNTAIN	1,017	280	28	5	9,728	9,721	2,288	584	225	46	80	15
Mont.	17	9	1	1	88	77	78	32	27	-	9	-
Idaho	22	22	-	-	90	124	73	70	-	1	4	2
Wyo.	2	4	2	-	46	81	9	8	42	-	1	5
Colo.	322	90	10	1	3,453	2,749	645	90	77	19	17	-
N. Mex.	75	28	4	1	746	809	246	160	19	8	2	2
Ariz.	320	73	6	1	3,402	3,586	898	132	22	12	26	-
Utah	96	13	3	1	271	255	259	13	25	6	1	6
Nev.	163	41	2	-	1,632	2,040	80	79	13	-	20	-
PACIFIC	7,474	2,383	86	4	34,769	42,777	4,880	2,749	1,225	198	72	186
Wash.	429	-	1	-	2,927	3,710	618	278	124	7	10	11
Oreg.	235	-	-	-	1,298	1,621	335	216	60	9	1	-
Calif.	6,676	2,306	79	3	29,611	36,160	3,728	2,228	851	172	60	174
Alaska	13	13	6	-	531	688	54	13	3	1	-	-
Hawaii	121	64	-	1	402	598	145	14	187	9	1	1
Guam	-	2	-	-	50	12	5	1	-	6	-	1
P.R.	1,349	145	1	-	192	437	38	350	162	17	1	-
V.I.	9	-	-	-	85	309	4	6	-	-	-	-
Amer. Samoa	-	-	-	-	37	44	1	1	-	-	-	-
C.N.M.I.	-	-	-	-	75	75	2	-	-	-	-	-

N: Not notifiable

U: Unavailable

C.N.M.I.: Commonwealth of Northern Mariana Islands

*Updated monthly; last update October 3, 1992.

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending October 10, 1992, and October 12, 1991 (41st Week)

Reporting Area	Measles (Rubeola)						Meningococcal Infections	Mumps		Pertussis			Rubella		
	Indigenous		Imported*		Total										
	Cum. 1992	1992	Cum. 1992	1992	Cum. 1992	Cum. 1991		Cum. 1992	1992	Cum. 1992	Cum. 1991	1992	Cum. 1992	Cum. 1991	
UNITED STATES	744	1	1,974	-	118	8,850	1,727	40	2,009	74	1,935	2,132	-	142	1,285
NEW ENGLAND	41	-	56	-	13	80	105	-	15	-	182	245	-	6	4
Maine	1	-	-	-	4	5	9	-	-	-	11	51	-	1	-
N.H.	3	-	15	-	-	-	5	-	3	-	43	18	-	-	1
Vt.	-	-	-	-	-	5	5	-	1	-	7	4	-	-	-
Mass.	22	-	16	-	5	35	41	-	3	-	85	146	-	-	2
R.I.	5	-	23	-	-	4	7	-	-	-	1	-	-	4	-
Conn.	10	-	2	-	4	31	38	-	8	-	35	26	-	1	1
MID. ATLANTIC	193	-	173	-	15	4,603	193	2	141	17	186	198	-	16	565
Upstate N.Y.	30	-	81	-	5	401	96	-	57	3	79	114	-	11	539
N.Y. City	113	-	42	-	8	1,710	18	-	12	-	9	20	-	-	2
N.J.	25	-	45	-	1	1,032	25	-	9	-	16	14	-	2	2
Pa.	25	-	5	-	1	1,460	54	2	63	14	82	50	-	3	22
E.N. CENTRAL	49	-	38	-	14	86	266	1	263	2	256	369	-	8	320
Ohio	9	-	-	-	6	3	65	-	93	-	63	80	-	-	283
Ind.	11	-	20	-	-	6	41	-	9	-	31	69	-	-	3
Ill.	14	-	7	-	4	26	69	-	81	-	25	69	-	8	8
Mich.	12	-	11	-	2	42	72	1	68	-	9	37	-	-	25
Wis.	3	-	-	-	2	9	19	-	12	2	128	114	-	-	1
W.N. CENTRAL	36	-	6	-	8	59	82	-	64	3	179	180	-	7	18
Minn.	16	-	5	-	5	27	12	-	19	-	32	75	-	-	6
Iowa	2	-	-	-	3	17	8	-	10	-	5	20	-	3	6
Mo.	11	-	-	-	-	1	29	-	27	-	78	59	-	-	5
N. Dak.	1	-	-	-	-	-	1	-	2	-	14	3	-	-	1
S. Dak.	1	-	-	-	-	-	1	-	2	-	14	4	-	-	-
Nebr.	1	-	-	-	-	1	15	-	4	1	13	9	-	-	-
Kans.	4	-	1	-	-	13	16	-	2	-	23	10	-	4	-
S. ATLANTIC	151	1	123	-	12	497	352	16	736	15	137	210	-	20	8
Del.	5	-	3	-	-	21	2	-	8	-	7	-	-	-	-
Md.	44	1	10	-	7	176	30	2	66	-	23	49	-	6	1
D.C.	10	-	-	-	-	-	3	-	5	-	1	1	-	1	1
Va.	33	-	11	-	4	30	49	-	49	-	10	20	-	-	-
W. Va.	2	-	-	-	-	-	16	-	23	-	7	9	-	1	-
N.C.	10	-	25	-	-	44	104	12	192	14	36	34	-	-	2
S.C.	1	-	29	-	-	13	22	2	51	-	10	12	-	7	-
Ga.	5	-	2	-	1	15	46	-	70	-	14	42	-	-	-
Fla.	41	-	43	-	-	198	80	-	272	1	29	43	-	5	4
E.S. CENTRAL	18	-	446	-	18	6	110	2	57	3	27	83	-	1	100
Ky.	1	-	445	-	2	1	32	-	-	-	1	-	-	-	-
Tenn.	12	-	-	-	-	3	32	1	15	2	8	35	-	1	100
Ala.	4	-	-	-	-	2	35	1	13	1	15	44	-	-	-
Miss.	1	-	1	-	16	-	11	-	29	-	3	4	-	-	-
W.S. CENTRAL	25	-	1,007	-	5	198	125	8	339	-	53	115	-	-	7
Ark.	3	-	-	-	-	5	12	-	6	-	17	10	-	-	1
La.	1	-	-	-	-	-	26	-	21	-	8	16	-	-	-
Okla.	5	-	11	-	-	-	14	-	17	-	28	37	-	-	-
Tex.	16	-	996	-	5	193	73	8	295	-	-	52	-	-	6
MOUNTAIN	26	-	24	-	8	1,202	84	3	122	12	321	273	-	8	23
Mont.	-	-	-	-	-	-	14	-	2	3	7	4	-	-	-
Idaho	1	-	-	-	-	449	8	-	3	-	39	27	-	1	-
Wyo.	-	-	1	-	-	3	2	-	-	-	-	3	-	-	-
Colo.	6	-	20	-	7	7	17	1	19	-	38	114	-	1	3
N. Mex.	4	-	1	-	1	98	8	N	N	6	90	33	-	-	2
Ariz.	9	-	2	-	-	402	19	-	67	-	110	57	-	2	2
Utah	4	-	-	-	-	224	4	-	20	3	35	33	-	2	11
Nev.	2	-	-	-	-	19	12	2	11	-	2	2	-	2	5
PACIFIC	205	-	101	-	25	2,119	410	8	272	22	594	459	-	76	240
Wash.	15	-	-	-	10	61	66	1	12	13	188	126	-	6	8
Oreg.	11	-	3	-	1	88	57	N	N	7	39	58	-	3	3
Calif.	171	-	56	-	3	1,938	273	6	238	2	340	213	-	44	218
Alaska	1	-	8	-	1	5	8	-	1	-	10	13	-	-	1
Hawaii	7	-	34	-	10	27	6	1	21	-	17	49	-	23	10
Guam	2	U	10	U	-	-	1	U	11	U	-	-	U	3	-
P.R.	-	-	339	-	-	94	3	-	1	-	11	53	-	-	1
V.I.	-	-	-	-	-	2	-	-	19	-	-	-	-	-	-
Amer. Samoa	-	-	-	-	-	24	-	-	-	-	6	-	-	-	-
C.N.M.I.	-	U	1	U	1	-	-	U	-	U	1	-	U	-	-

*For measles only, imported cases include both out-of-state and international importations.

N: Not notifiable

U: Unavailable

† International

§ Out-of-state

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending October 10, 1992, and October 12, 1991 (41st Week)

Reporting Area	Syphilis (Primary & Secondary)		Toxic- Shock Syndrome	Tuberculosis		Tula- remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1992	Cum. 1991	Cum. 1992	Cum. 1992	Cum. 1991	Cum. 1992	Cum. 1992	Cum. 1992	Cum. 1992
UNITED STATES	26,578	33,111	188	17,482	17,807	134	298	377	6,421
NEW ENGLAND	524	823	12	399	510	1	26	7	674
Maine	2	1	1	19	30	-	-	-	-
N.H.	38	12	6	15	5	-	1	-	7
Vt.	1	2	-	6	8	-	-	-	21
Mass.	269	387	4	213	261	1	16	3	22
R.I.	24	44	1	34	75	-	-	-	-
Conn.	190	377	-	112	131	-	9	2	624
MID. ATLANTIC	3,781	5,723	23	3,928	4,106	-	78	33	1,954
Upstate N.Y.	261	540	9	321	357	-	10	15	1,133
N.Y. City	2,032	2,887	-	2,419	2,513	-	34	5	16
N.J.	445	979	-	702	680	-	21	4	560
Pa.	1,043	1,317	14	486	556	-	13	9	245
E.N. CENTRAL	4,067	4,006	50	1,766	1,760	1	35	28	133
Ohio	645	525	15	257	270	-	6	15	13
Ind.	238	147	11	145	174	-	1	6	17
Ill.	1,884	1,850	5	912	913	1	24	2	33
Mich.	766	1,008	19	391	319	-	3	2	14
Wis.	534	476	-	61	84	-	1	3	56
W.N. CENTRAL	1,093	620	32	403	410	55	6	28	926
Minn.	73	56	7	107	80	-	2	-	143
Iowa	36	60	5	32	54	-	1	2	151
Mo.	821	420	7	185	180	40	2	20	25
N. Dak.	1	1	2	6	6	-	-	-	132
S. Dak.	-	1	-	19	28	11	-	1	113
Nebr.	1	12	4	16	15	2	1	-	12
Kans.	161	70	7	38	47	2	-	5	350
S. ATLANTIC	7,178	9,722	22	3,330	3,381	5	27	109	1,436
Del.	168	140	3	40	25	-	-	10	167
Md.	518	777	2	292	296	1	5	14	437
D.C.	305	595	-	89	148	-	1	1	15
Va.	552	744	3	292	273	2	2	19	270
W. Va.	15	24	1	73	56	-	1	5	36
N.C.	1,887	1,560	3	441	442	1	-	43	36
S.C.	965	1,212	1	319	333	-	2	7	143
Ga.	1,433	2,400	5	686	687	1	-	7	291
Fla.	1,335	2,270	4	1,098	1,121	-	16	3	41
E.S. CENTRAL	3,389	3,660	3	1,113	1,152	8	3	60	158
Ky.	133	82	-	307	282	1	-	6	57
Tenn.	874	1,186	3	284	323	7	-	51	33
Ala.	1,205	1,391	-	326	310	-	-	3	67
Miss.	1,177	1,001	-	196	237	-	3	-	1
W.S. CENTRAL	4,827	5,860	2	2,069	2,171	34	14	96	596
Ark.	661	478	-	163	185	23	1	15	39
La.	1,987	2,111	-	155	175	-	1	-	8
Okla.	301	159	1	124	137	11	-	80	277
Tex.	1,878	3,112	1	1,627	1,674	-	12	1	272
MOUNTAIN	282	460	15	437	493	24	5	10	215
Mont.	7	6	1	-	6	12	-	3	20
Idaho	1	4	1	19	6	-	1	1	5
Wyo.	3	8	-	-	5	1	-	4	81
Colo.	45	68	6	30	69	4	2	-	22
N. Mex.	36	26	1	64	59	4	1	1	8
Ariz.	142	293	2	204	251	-	-	-	61
Utah	7	6	4	61	40	2	-	1	6
Nev.	41	49	-	59	57	1	1	-	12
PACIFIC	1,437	2,237	29	4,037	3,824	6	104	6	329
Wash.	65	151	-	234	231	2	8	-	-
Oreg.	37	66	1	106	99	-	-	3	2
Calif.	1,322	2,009	28	3,460	3,283	2	90	3	314
Alaska	5	4	-	43	55	2	-	-	13
Hawaii	8	7	-	194	156	-	6	-	-
Guam	3	1	-	58	6	-	3	-	-
P.R.	282	340	-	200	203	-	1	-	31
V.I.	54	87	-	3	2	-	-	-	-
Amer. Samoa	-	-	-	-	3	-	1	-	-
C.N.M.I.	6	3	-	48	16	-	1	-	-

U: Unavailable

**TABLE III. Deaths in 121 U.S. cities,* week ending
October 10, 1992 (41st Week)**

Reporting Area	All Causes, By Age (Years)						P&I [†] Total	Reporting Area	All Causes, By Age (Years)						P&I [†] Total
	All Ages	≥65	45-64	25-44	1-24	<1			All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	611	433	104	49	15	10	45	S. ATLANTIC	986	564	214	130	43	35	42
Boston, Mass.	162	104	31	17	6	4	16	Atlanta, Ga.	162	77	40	27	4	14	6
Bridgeport, Conn.	35	25	7	2	1	-	3	Baltimore, Md.	158	89	37	29	3	-	13
Cambridge, Mass.	18	16	1	1	-	-	-	Charlotte, N.C.	85	49	21	7	6	2	2
Fall River, Mass.	23	19	2	2	-	-	-	Jacksonville, Fla.	83	51	17	11	3	1	4
Hartford, Conn.	55	33	12	7	1	2	-	Miami, Fla.	125	63	30	22	3	7	-
Lowell, Mass.	21	19	1	1	-	-	1	Norfolk, Va.	47	28	7	3	7	2	4
Lynn, Mass.	15	10	3	2	-	-	1	Richmond, Va.	73	40	20	6	6	1	1
New Bedford, Mass.	28	25	-	2	-	-	1	Savannah, Ga.	38	24	5	2	3	4	1
New Haven, Conn.	60	42	13	3	2	-	7	St. Petersburg, Fla.	62	46	9	4	1	2	2
Providence, R.I.	50	35	9	2	4	-	-	Tampa, Fla.	136	84	26	18	6	2	9
Somerville, Mass.	7	7	-	-	-	-	-	Washington, D.C.	U	U	U	U	U	U	U
Springfield, Mass.	45	30	11	4	-	-	4	Wilmington, Del.	17	13	2	1	1	-	-
Waterbury, Conn.	32	24	4	3	1	-	2	E.S. CENTRAL	712	442	173	55	25	17	25
Worcester, Mass.	60	44	10	3	-	3	10	Birmingham, Ala.	115	70	24	11	6	4	2
MID. ATLANTIC	2,323	1,458	444	291	52	77	79	Chattanooga, Tenn.	56	36	13	5	2	-	2
Albany, N.Y.	52	38	10	3	-	1	1	Knoxville, Tenn.	80	49	21	6	1	3	2
Allentown, Pa.	19	17	2	-	-	-	-	Lexington, Ky.	61	34	18	6	1	2	6
Buffalo, N.Y.	100	77	13	1	6	3	5	Memphis, Tenn.	161	101	43	14	1	2	4
Camden, N.J.	37	26	5	4	-	2	2	Mobile, Ala.	72	48	12	7	4	1	3
Elizabeth, N.J.	25	17	7	-	-	1	-	Montgomery, Ala.	49	31	13	2	2	1	3
Erie, Pa.‡	38	28	10	-	-	-	-	Nashville, Tenn.	118	73	29	4	8	4	3
Jersey City, N.J.	54	34	7	6	3	4	1	W.S. CENTRAL	1,348	819	264	163	51	49	72
New York City, N.Y.	1,247	727	257	195	26	42	32	Austin, Tex.	47	32	3	9	2	1	4
Newark, N.J.	46	21	11	10	-	4	1	Baton Rouge, La.	55	41	10	4	-	-	4
Paterson, N.J.	16	7	5	3	1	-	-	Corpus Christi, Tex.	U	U	U	U	U	U	U
Philadelphia, Pa.	295	185	56	40	5	9	16	Dallas, Tex.	234	141	45	28	8	12	2
Pittsburgh, Pa.‡	68	50	10	3	1	3	3	El Paso, Tex.	87	55	16	12	2	2	5
Reading, Pa.	16	12	3	1	-	-	1	Ft. Worth, Tex.	90	51	21	9	6	3	4
Rochester, N.Y.	97	68	18	6	3	2	6	Houston, Tex.	351	183	79	61	20	8	33
Schenectady, N.Y.	24	16	5	2	-	1	1	Little Rock, Ark.	61	38	18	-	2	3	4
Scranton, Pa.‡	27	21	3	2	1	-	2	New Orleans, La.	54	38	7	5	3	1	-
Syracuse, N.Y.	79	50	16	7	2	4	3	San Antonio, Tex.	171	101	30	23	3	14	6
Trenton, N.J.	30	20	3	5	1	1	4	Shreveport, La.	96	65	19	5	4	3	7
Utica, N.Y.	25	19	2	3	1	-	-	Tulsa, Okla.	100	74	16	7	1	2	3
Yonkers, N.Y.	28	25	1	-	2	-	1	MOUNTAIN	815	544	145	75	25	26	72
E.N. CENTRAL	2,008	1,250	378	200	107	73	97	Albuquerque, N.M.	97	67	14	11	3	2	1
Akron, Ohio	54	41	7	3	-	3	-	Colo. Springs, Colo.	48	37	8	2	1	-	3
Canton, Ohio	41	28	8	4	1	-	3	Denver, Colo.	108	67	18	15	5	3	12
Chicago, Ill.	384	151	80	75	59	19	13	Las Vegas, Nev.	157	97	39	13	5	3	18
Cincinnati, Ohio	136	88	33	8	1	6	12	Ogden, Utah	28	23	4	1	-	-	4
Cleveland, Ohio	140	93	20	15	6	6	5	Phoenix, Ariz.	162	101	30	16	3	12	15
Columbus, Ohio	119	71	33	9	4	2	3	Pueblo, Colo.	25	19	4	2	-	-	2
Dayton, Ohio	129	94	15	13	3	4	8	Salt Lake City, Utah	91	63	13	7	5	3	12
Detroit, Mich.	255	157	51	23	11	13	8	Tucson, Ariz.	99	70	15	8	3	3	5
Evansville, Ind.	50	39	7	2	-	2	2	PACIFIC	1,362	872	247	147	42	51	89
Fort Wayne, Ind.	49	35	7	1	2	4	3	Berkeley, Calif.	29	18	-	6	1	4	2
Gary, Ind.	17	9	3	3	2	-	2	Fresno, Calif.	95	62	19	4	5	5	6
Grand Rapids, Mich.	61	53	3	3	1	1	5	Glendale, Calif.	U	U	U	U	U	U	U
Indianapolis, Ind.	144	80	38	14	5	7	13	Honolulu, Hawaii	53	30	16	3	2	2	1
Madison, Wis.	42	31	8	2	-	1	1	Long Beach, Calif.	76	45	13	11	6	1	18
Milwaukee, Wis.	125	92	24	8	-	1	3	Los Angeles, Calif.	U	U	U	U	U	U	U
Peoria, Ill.	54	42	7	2	2	1	2	Pasadena, Calif.	31	19	3	4	1	4	3
Rockford, Ill.	60	39	8	6	4	3	6	Portland, Ore.	135	90	24	9	5	5	3
South Bend, Ind.	61	44	12	5	-	-	3	Sacramento, Calif.	148	89	37	13	6	3	9
Toledo, Ohio	87	63	14	4	6	-	5	San Diego, Calif.	154	93	25	21	9	6	20
Youngstown, Ohio	U	U	U	U	U	U	U	San Francisco, Calif.	176	97	35	37	1	6	-
W.N. CENTRAL	757	530	131	55	21	20	25	San Jose, Calif.	158	109	22	19	-	7	14
Des Moines, Iowa	79	53	15	5	1	5	2	Santa Cruz, Calif.	28	23	3	1	1	-	2
Duluth, Minn.	34	29	3	2	-	-	1	Seattle, Wash.	140	100	20	11	4	5	2
Kansas City, Kans.	22	14	4	2	1	-	1	Spokane, Wash.	57	41	11	3	1	1	5
Kansas City, Mo.	89	65	15	7	1	-	5	Tacoma, Wash.	82	56	19	5	-	2	4
Lincoln, Neb.	32	25	4	2	1	-	1	TOTAL	10,920 [†]	6,912	2,100	1,165	381	358	546
Minneapolis, Minn.	146	94	29	14	4	5	8								
Omaha, Neb.	99	77	17	3	2	-	2								
St. Louis, Mo.	107	64	16	14	7	6	-								
St. Paul, Minn.	81	56	16	4	3	2	3								
Wichita, Kans.	68	53	12	2	1	-	3								

*Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

[†]Pneumonia and influenza.

[‡]Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

[§]Total includes unknown ages.

U: Unavailable.

Unintentional and Intentional Injuries – Continued

Complementary educational and legal strategies are needed at the community level, including decreasing the cultural acceptance of violence (5); decreasing aggressive behavior between parents and children (6); reducing the exposure of children and adolescents to violence in the media (7); and improving the recognition of children and adolescents at high risk for assaults (5). Gatekeeper training and screening programs can help identify youth at risk for suicide and refer them to mental health services (8).

Legislation that requires safety-belt and helmet use among adolescents and adults is needed in every state (3). National health objective 9.14 calls for the enactment and

TABLE 3. Percentage of high school students who reported “always” using safety belts,* motorcycle helmets,[†] or bicycle helmets,[‡] by sex — United States and selected U.S. sites, Youth Risk Behavior Surveys, 1991

Site	Safety-belt use			Motorcycle-helmet use			Bicycle-helmet use		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
WEIGHTED DATA									
National survey	29.5	25.9	27.7	41.1	38.2	39.3	0.9	1.2	1.1
State surveys									
Alabama	20.0	11.8	15.9	44.7	40.4	41.6	0.7	0.9	0.8
Georgia	31.4	25.5	28.4	41.2	36.9	38.3	1.6	1.4	1.5
Idaho	19.9	15.4	17.5	28.9	34.4	32.5	0.6	1.2	0.9
Nebraska	10.2	7.6	8.9	41.7	29.2	33.1	0.4	0.8	0.6
New Mexico	33.9	27.5	30.5	21.7	26.4	24.8	0.4	1.2	0.9
New York [†]	31.1	28.4	29.7	64.6	54.3	57.5	0.6	1.0	0.8
Puerto Rico**	25.5	23.1	24.3	25.3	20.5	22.4	0.4	1.0	0.7
South Carolina	30.8	23.6	27.2	34.0	22.7	26.3	0.6	1.0	0.8
South Dakota	6.2	7.0	6.6	20.6	27.0	24.2	0.1	0.5	0.3
Utah	24.2	19.0	21.6	22.6	25.0	24.0	0.8	1.9	1.4
Local surveys									
Chicago	12.6	9.4	11.0	17.4	12.1	14.4	0.8	0.8	0.8
Dallas	37.5	35.8	36.6	30.5	28.0	28.8	1.3	1.3	1.3
Ft. Lauderdale, Fla.	29.3	28.1	28.8	60.4	50.7	54.1	0.2	0.5	0.4
Jersey City, N.J.	12.0	7.9	10.0	57.9	59.3	58.9	1.6	2.1	1.9
Miami	22.8	19.9	21.3	43.9	39.6	40.8	0.3	0.8	0.6
Philadelphia	12.7	8.6	10.8	38.9	39.5	39.2	0.5	0.9	0.7
San Diego	44.7	39.7	42.2	35.2	32.4	33.6	1.5	2.4	2.0
UNWEIGHTED DATA									
State surveys									
Colorado [†]	22.6	19.7	21.1	24.9	24.7	24.8	1.2	0.9	1.0
District of Columbia**	20.1	15.6	18.0	53.7	38.7	41.8	0.6	1.7	1.3
Hawaii	57.4	50.1	53.7	16.1	14.0	14.6	0.4	0.8	0.7
Iowa	17.1	12.7	15.0	10.3	10.0	10.1	0.1	0.7	0.4
Montana	18.2	15.2	16.7	24.2	29.1	27.1	0.9	0.9	0.9
New Hampshire	24.5	21.8	23.2	56.2	48.1	51.0	0.4	1.8	1.2
New Jersey [†]	30.3	26.4	28.4	54.6	56.9	56.0	0.8	2.2	1.5
Oregon	60.1	48.3	54.0	59.0	49.6	52.6	1.9	3.4	2.7
Pennsylvania [†]	35.8	27.5	31.4	55.0	39.1	43.6	0.8	1.6	1.3
Tennessee	30.0	24.8	27.5	43.8	35.5	38.3	0.6	1.3	0.9
Virgin Islands**	NA ^{††}	NA	NA	50.0	40.4	43.2	NA	NA	NA
Wisconsin	21.7	19.7	20.7	40.6	29.2	33.8	0.0	0.3	0.2
Wyoming	17.3	13.7	15.4	33.2	40.5	38.1	0.3	1.0	0.7
Local surveys									
Boston	10.3	7.7	9.3	41.7	42.8	42.2	0.8	1.0	0.9
New York City	15.9	13.7	14.8	36.8	38.1	37.6	0.7	0.8	0.7
San Francisco	30.5	29.3	29.9	10.4	15.2	13.4	1.1	2.1	1.7

* When riding in a car or truck driven by someone else.

[†] Among students who rode motorcycles.

[‡] Among students who rode bicycles.

[†] Survey did not include students from the largest city.

** Categorized as a state for funding purposes.

^{††} Not available; survey did not include these questions.

Unintentional and Intentional Injuries — Continued

enforcement of laws requiring safety-belt and helmet use for persons of all ages. Increasing the use of safety belts, the use of motorcycle and bicycle helmets, and the practice of other safety precautions among adolescents will require cooperative efforts by local and state health, traffic-safety, and education officials; families; medical practitioners; retailers; community agencies serving youth; and legislators.

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Effectiveness in Disease and Injury Prevention

**National Coalition for Adult Immunization:
Activities to Increase Influenza Vaccination Levels, 1989-1991**

Older persons and persons with underlying health problems are at increased risk for complications of influenza infection; however, only 30% of persons aged ≥ 65 years are vaccinated against influenza each year (1). This report describes initial efforts by the National Coalition for Adult Immunization's (NCAI) Influenza and Pneumonia Action Group (IPAG) to increase influenza vaccination of adults in the United States during 1990-1993, and highlights National Adult Immunization Week, October 25-31, 1992.

Project Characteristics

In 1988, the NCAI was formed to increase the awareness of physicians, other health-care providers, and the general public about the need for and benefits of adult vaccination. In 1989, the NCAI convened the IPAG* to conduct disease-specific information and education activities. During 1990, the IPAG initiated a 3-year project in

*Members of the NCAI's IPAG include the American Lung Association, the American College of Physicians, the Association of State and Territorial Health Officials, the American Health Care Association, the American Association of Retired Persons, the American Association of Homes for the Aging, the American Academy of Family Physicians, the United States Conference of Local Health Officers, the American Society of Hospital Pharmacists, the Canadian Lung Association, and CDC.

Adult Immunization – Continued

eight geographically and demographically diverse project areas to increase use of influenza and pneumococcal vaccines; another site was added in 1992.[†]

In each pilot site, partnerships were established between the local American Lung Association (ALA) and a state or local health department; these groups invited key community leaders from health-care provider and consumer groups to participate in establishing a community vaccination coalition. Coalition members were selected based on their efforts in promoting adult vaccination, particularly influenza and pneumococcal vaccination.

The primary objective of the IPAG is to increase influenza vaccine coverage as measured by vaccine distribution. Additional objectives are to 1) collect influenza vaccine delivery data from public health sites for at least 1 year before project start-up and for each project year, 2) increase the number of health-care providers who recommended and provided influenza vaccine to their patients each year, and 3) increase activities by the local ALA and community-leader coalitions aimed at improving health-care providers' awareness of the need for influenza vaccination.

Project activities included combinations of 1) physician presentations at county and state medical society meetings and hospital grand rounds; 2) feature articles on vaccination in health-care provider newsletters; 3) increased media attention to influenza vaccination (including newspaper articles, radio interviews, advertisements in weekly newspapers, bus-advertising placards, milk-carton and grocery-bag art, and billboards); 4) distribution of approximately 100,000 physician newsletters and an estimated 400,000 vaccination pamphlets, posters, and promotional buttons and stickers encouraging influenza vaccination; and 5) distribution and completion of adult-vaccination cards.

Site-specific data on influenza vaccine distribution were provided by the four U.S. influenza vaccine manufacturers, and for six of nine sites, the number of doses of influenza vaccine distributed by local public health clinics were provided by the state or local health departments. Program activities continue in the nine pilot sites, and additional ALA and health department partners have formed in other areas in the United States.

Project Results

During the 1989–90 influenza season, influenza vaccination increased in each project site, compared with 1988–89 levels. In the first year of the project (i.e., the 1990–91 influenza season), distribution of vaccine doses increased from 2.3% to 23.9% in five of the eight sites compared with 1989–90 levels—Minnesota (23.9%), South Dakota (11.0%), Washington (10.4%), Mississippi (5.9%), and Delaware (2.3%). Although declines occurred in three sites (New York City [-17.7%]; Lee County, Florida [-6.9%]; and Oklahoma [-6.3%]), distribution in these sites remained above levels in 1988–89. In addition, in two of these sites, vaccine distribution increased in public health clinics (Lee County [15.0%] and Oklahoma [14.6%]). Increases (from 4.5% to 22.3%) in public clinic vaccine distribution also occurred in the six sites reporting data on health department (i.e., public) clinic vaccine distribution. The largest increase (23.9%) in overall public and private vaccine distribution was reported by Minnesota.

[†] The eight sites included the entire states of Delaware, Minnesota, Mississippi, Oklahoma, South Dakota, and Washington, and New York City and Lee County, Florida. Colorado was added in 1992.

Adult Immunization — Continued

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Editorial Note: Although vaccination programs have markedly reduced the incidence of vaccine-preventable diseases among children, vaccination programs for adults have been difficult to implement for at least four reasons: 1) comprehensive adult vaccine-delivery systems are not available in the public and private sectors; 2) although statutory requirements exist for vaccination of children, few such requirements exist for adults; 3) reimbursement mechanisms and coverage by third-party payors are limited in the public and private sectors; and 4) vaccination programs have not been established in most settings where adults congregate (e.g., the workplace and retirement communities).

Despite these barriers, strategies have been developed that are effective in enhancing influenza vaccination rates and reducing influenza-related morbidity and the associated need for health services (2-6). Most recently, the Medicare Influenza Vaccine Demonstration increased overall influenza vaccine coverage in 10 demonstration sites from an estimated baseline of 43% in 1988-89 to approximately 62% in 1991-92 (7) (Health Care Financing Administration, unpublished data, 1992). In addition, the California influenza vaccination program has documented steady increases in influenza vaccine delivery and in overall coverage (8) (Immunization Unit, California State Department of Health Services, unpublished data, 1992).

The findings in this report suggest that the collaboration of public and private organizations in the eight pilot sites was successful in raising total influenza vaccine doses distributed in five of the sites. Furthermore, doses distributed through public clinics increased for all sites that reported data, despite a drop in overall vaccine distribution in two of these sites, suggesting that a decrease in vaccine distribution occurred in private settings. However, other outreach public programs have stimulated vaccine delivery in private settings (7,9).

Efforts during the third year of the vaccination projects (i.e., the 1992-93 influenza season) will focus on strengthening influenza vaccination efforts and expanding to include pneumococcal vaccination activities. Health-care provider and patient-education materials about pneumococcal pneumonia will be distributed through local ALA offices. In addition, influenza and pneumococcal vaccine distribution during both the second and third years of the project will be assessed to measure the sustainability of the increases in vaccine coverage.

Adult Immunization – Continued

The national health objectives for the year 2000 include increasing to 60% the proportion of older and chronically ill noninstitutionalized persons who are vaccinated against pneumococcal and influenza infections (objective 20.11) (10). Attainment of this objective will require multifaceted strategies involving collaboration of public and private organizations to improve awareness regarding vaccine delivery and develop publicly supported delivery mechanisms that remove cost and accessibility constraints. National Adult Immunization Awareness Week draws attention to efforts that promote prevention and control of vaccine-preventable diseases among adults. Additional information is available from NCAI; telephone (301) 656-0003.

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*International Notes***Poliomyelitis — Netherlands, 1992**

From September 17 through October 9, 1992, five cases of poliomyelitis were reported in the Netherlands among members of religious groups that generally do not accept vaccination. This report summarizes investigations of these five cases by the Netherlands' Office of the Chief Medical Officer of Health, the Laboratory of Virology, National Institute for Public Health and Environmental Protection, and the Municipal Health Services in Rotterdam. The investigation indicated that none of the cases were epidemiologically linked; two of the cases (cases 1 and 2) had some history of receipt of polio vaccine, while three (cases 3-5) had no history of polio vaccination. This report summarizes the investigation of these cases.

*Poliomyelitis — Continued***Case Reports**

Case 1. A 14-year-old boy from the province of South Holland had onset of paralysis on September 16. He reported travel to Germany and Belgium during the 3 weeks before onset of paralysis but no travel to known polio-endemic regions. Even though he is a member of a religious group that does not accept vaccination, he had received one dose of monovalent oral poliovirus vaccine (OPV) type 1 during the 1978 polio outbreak that affected his religious group (1,2). Laboratory diagnosis was made by detection of IgM antibodies to poliovirus type 3 in blood and cerebrospinal fluid (CSF) and confirmed by isolation of wild poliovirus type 3 from stools of the patient and three of his siblings. Partial genomic sequencing showed that these isolates are closely related (95% nucleotide homology) to a 1991 isolate from southern Asia. Based on detection of poliovirus type 3-specific IgM antibody, poliovirus type 3 infection was demonstrated in 38 (23%) of 163 children who were members of the same religious group and who attended the same school as the patient's younger siblings, but in three (2%) of 163 children who attended a neighboring school in the same village and who had received a primary series of enhanced-potency inactivated poliovirus vaccine (eIPV) as part of the infant vaccination schedule.

Case 2. A 23-year-old male student nurse from South Holland had onset of paralysis on September 26. He had no history of travel to known polio-endemic regions. He had received a first dose of eIPV 1 day before onset of paralysis as part of a vaccination program for health-care workers. Laboratory diagnosis was initially made by detection of poliovirus type 3-specific IgM antibody in blood and confirmed by isolation of poliovirus type 3.

Case 3. A 6-year-old boy from the province of Utrecht had onset of meningitis on October 6. Laboratory diagnosis was initially made by detection of poliovirus type 3-specific IgM antibody in blood and CSF and confirmed by virus isolation.

Case 4. A 39-year-old man from South Holland had onset of paralysis on October 6. Laboratory diagnosis was initially made by detection of poliovirus type 3-specific IgM antibody in blood and CSF and confirmed by virus isolation.

Case 5. A 33-year-old man from South Holland had onset of paralysis on October 7. Laboratory diagnosis was initially made by detection of poliovirus type 3-specific IgM antibody in blood and CSF and confirmed by virus isolation.

Investigation and Follow-up

Investigations of the extent of transmission are being conducted in the unvaccinated groups. Environmental sampling studies for poliovirus are in progress within the areas with persons considered to be at highest risk and are planned for areas elsewhere in the Netherlands.

Since the first case was identified, public health officials in the Netherlands have initiated intensive efforts to vaccinate members of the groups at risk, including one dose of trivalent OPV to persons aged <41 years who have never been vaccinated and one dose of diphtheria and tetanus toxoids and poliovirus vaccine or eIPV to persons <41 years who were incompletely vaccinated.

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Poliomyelitis – Continued

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Editorial Note: In the United States, the last outbreak of wild poliovirus occurred in 1979, when 10 cases of paralytic poliomyelitis were reported in four states among unvaccinated Amish persons and members of other religious groups who did not accept vaccination (3). Epidemiologic and virologic studies suggested that the wild poliovirus type 1 involved in that outbreak was imported—through contacts in Canada (4,5)—from an unvaccinated religious group in the Netherlands, among whom 80 cases of acute paralytic poliomyelitis had occurred in 1978 (2).

Recent studies in the Netherlands indicate that more than 97% of infants receive the first three doses of eIPV, and more than 94% receive all five doses of eIPV by the age of 1 year. OPV is used only to control outbreaks. Since the last outbreak in 1978, no indigenous cases of poliomyelitis had been reported in the Netherlands until the five cases reported here (6).

Because the ratio between infection and paralytic disease for poliovirus type 3 exposure can be as high as 1000:1, the detection of five cases in the Netherlands suggests a much larger number of infections has occurred within the country (7). The high degree of homology of this virus and a recent isolate from southern Asia again demonstrates that wild virus can be spread to populations of susceptible persons living far from endemic regions, and reinforces the need to intensify efforts to achieve the World Health Assembly goal of global polio eradication by the year 2000 (8).

At present, the risk for acquiring poliomyelitis in the Netherlands is minimal because of the excellent sanitary conditions and the high nationwide coverage for polio vaccination. Therefore, CDC does not recommend special precautions for U.S. travelers who have received a primary series of poliovirus vaccine as part of the infant vaccination schedule.

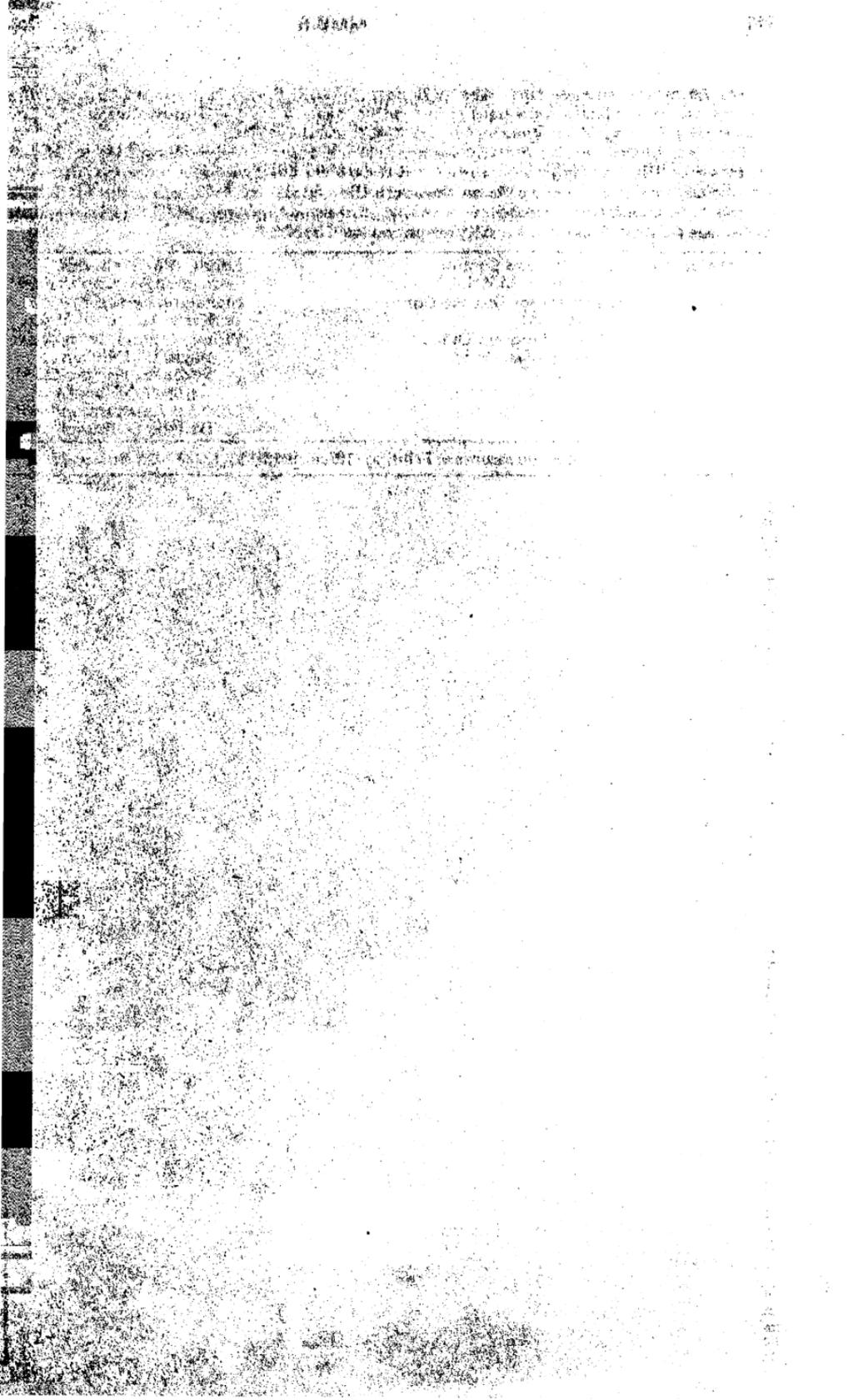
The 1979 polio outbreak illustrated the risk for unvaccinated members of religious groups in the United States who have direct or indirect contact with members of religious groups elsewhere in North America or the Netherlands among whom poliovirus is circulating. Such persons should continue to be warned of the potential risk for poliomyelitis resulting from this outbreak and should be encouraged to accept polio vaccination according to recommendations of the Advisory Committee on Immunization Practices (9,10). Recommendations include a primary series of three doses of OPV for unvaccinated persons aged <18 years, three doses of eIPV for unvaccinated persons aged ≥18 years, and either OPV or eIPV for incompletely vaccinated persons aged ≥18 years. Booster doses of either OPV or eIPV may be considered for persons who have completed a primary series of polio vaccination.

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